

# THE MINERAL INDUSTRY OF

# AUSTRIA

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Although the mining industry has maintained a long tradition in Austria, the metal mining sector was declining, principally owing to high operating costs, low ore grades, environmental problems, and increased foreign competition. This was not the case with the industrial minerals sector, which has been producing a number of important minerals. Austria was considered to be a significant producer of graphite and talc with about 2.5% of world total output of graphite and about 1.6% of world total output of talc. Recycling activities were also increasing (table 1).

Because of Austria's dependence on foreign trade, it had an open economy closely linked to the economies of other European Union member countries, especially Germany.

During the last several years, the Austrian mineral industry has turned away from coal and base metal mining. Except for the iron ore operation at Erzberg and the tungsten operation at Mittersill, all the metal mines were closed. Most of the growth in the mineral resources area was in the production of industrial minerals for which operations were developed by the private sector. A small portion of the mineral industry was still under Government control (table 2).

Because of Austria's long history of minerals exploration and mining tradition, geologic conditions are fairly well known. Future mining activities will most likely be concentrated in industrial minerals, mainly for domestic consumption. The chances of finding new and workable base metal deposits are probably remote.

The Erzberg Mine of Voest-Alpine Erzberg GmbH produced a beneficiated iron ore that was shipped by rail to the nearby steel mills of Voest-Alpine Stahl AG for further beneficiation

and production of self-fluxing sinter that averaged 50% iron and 3% manganese.

Wolfram Bergbau und Hütten GmbH operated the Western World's largest underground tungsten mine at Mittersill and a tungsten conversion plant at Bergla.

Ample supplies of calcite, dolomite, and limestone were available to support a viable cement industry in Austria. The market was relatively fragmented; only two of the five major producing companies have more than one plant. Austria was one of the world's largest sources of high-grade graphite. Grafitbergbau Kaiserberg AG operated open pit mines at Kaisersberg and at Trieben. Grafitbergbau's 30,000-metric-ton-per-year capacity processing plant at Kaisersberg consisted of drying, classification, milling, flotation, and fine grinding sections.

Austrian salt mines were owned by the Government and regulated by the Ministry of Finance. All salt output was from three underground mines and one brine well in central Austria. The Government was proceeding with plans to privatize the operations. Luzenac Naintsch AG, which was the only producer of talc in Austria, operated three mines in the Styria region and produced a range of talc, chloritic talc, dolomite talc, and chlorite-mica-quartz ores.

In the coal mining sector, the open pit Oberdorf Mine of Graz-Koflacher Eisenbahn und Bergbaugesellschaft GmbH was the only lignite mine with any significant production.

For more extensive coverage of the mineral industry of Austria, see the 1996 Minerals Yearbook, volume III, The Mineral Industries of Europe and Central Eurasia.

TABLE 1  
AUSTRIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity	1995	1996	1997	1998	1999 e/
<b>METALS</b>					
Aluminum metal, secondary	93,500	97,500	118,800	116,500	128,000
Copper, refined:					
Primary	530	1,000 e/	2,000 e/	1,000 r/	2,000
Secondary	53,000	57,000 e/	74,000 e/	71,000 r/	75,600
Total	53,530	58,000 e/	76,000 e/	72,000 r/	77,600
Gold, metal e/ kilograms	100	100	100	100	100
Iron and steel:					
Iron ore and concentrate:					
Gross weight thousand tons	2,116	1,853	1,800 e/	1,400 e/	1,400
Fe content do.	709	504	500 e/	380 e/	380
Metal:					
Pig iron do.	3,838	3,416	3,965	4,022	3,913 3/
Ferroalloys, electric-furnace e/ do.	12	11	11	12	12
Crude steel do.	4,537	4,442	5,196	5,298	5,202 3/
Semimanufactures do.	3,968	3,837	4,516	4,640	4,600
Lead, refined, secondary	21,919	22,900	22,700	23,100 r/	24,500
Manganese, Mn content of domestic iron ore e/	42,463 3/	26,000	25,000	24,000	20,000
Tungsten, mine output, W content of concentrate	738	1,413	1,400 r/	1,423 r/	1,610 3/
<b>INDUSTRIAL MINERALS</b>					
Cement, hydraulic thousand tons	3,843	3,873	3,852	3,850 r/	3,800
Clays:					
Illite do.	277	151	150 e/	186 r/	190
Kaolin:					
Crude do.	427	180	180 e/	298 r/	152 3/
Marketable do.	57	60	60 e/	100 r/	50
Other e/ do.	2,900	3,000 3/	2,800	2,800	2,600
Graphite, crude	12,019	12,000	12,000 e/	10,738 r/	12,635 3/
Gypsum and anhydrite, crude thousand tons	958	996	1,000 e/	961 r/	990 3/
Lime do.	1,908	1,990	2,000 e/	2,000 e/	2,000
Magnesite:					
Crude do.	784	624	650 r/ e/	723 r/	769 3/
Sintered or dead-burned do.	272	289	300 e/	325 r/	325
Caustic calcined do.	59	52	60 e/	60 e/	60
Nitrogen, N content of ammonia e/	400	400	400	400	450
Pigments, mineral, micaceous iron oxide e/	8,000	7,500	7,500	7,000	6,000
Pumice (trass) e/	6,000	6,000	6,000 r/	6,137 r/ 3/	6,272 3/
Salt: e/					
Rock thousand tons	1	1	1	1	1
In brine do.	523 3/	367 3/	400	400	400
Sand and gravel:					
Quartz sand do.	7,503	6,012	6,000 e/	6,329 r/	6,857 3/
Other sand and gravel e/ do.	16,048 3/	16,000	18,000	18,000	18,000
Total do.	23,551	22,012	24,000 e/	24,329 r/	24,900
Sodium compounds, n.e.s.: e/					
Soda ash, manufactured do.	200	200	200	150	150
Sulfate, manufactured do.	100	100	100	100	100
Stone: 4/					
Dolomite thousand tons	8,790	9,155	9,000 e/	8,978 r/	7,968 3/
Quartz and quartzite do.	395	317	282	398 r/	409 3/
Other:					
Limestone and marble e/ do.	19,080 3/	20,000	20,000	20,000	20,000
Basalt do.	4,202	698	647	5,075 r/	5,201 3/
Marl do.	1,931	2,000	2,000 e/	1,364 r/	1,423 3/
Crushed stone e/ do.	11,299 3/	12,000	12,000	12,000	12,000
Total do.	36,512 r/	34,698 r/	34,647 r/	38,439 r/	38,600
Sulfur, byproduct of petroleum and natural gas e/	9,000	10,000	9,000	9,000	9,000
Talc and soapstone, crude	131,614	130,000	155,730	137,114 r/	129,516 3/
Coal, brown and lignite thousand tons	1,282	1,110	1,122	1,191 r/	1,137 3/
Coke do.	1,330	1,559	1,567	1,500	1,400
Gas, natural:					
Gross million cubic meters	1,480	1,400 e/	1,400 e/	1,568 r/	1,791 3/
Marketed e/ do.	1,000	1,000	1,000	1,000	1,000

See footnotes at end of table

TABLE 1--Continued  
AUSTRIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity	1995	1996	1997	1998	1999 e/
<b>MINERAL FUELS AND RELATED MATERIALS</b>					
Oil shale	1,078	498	500 e/	500	500
<b>Petroleum:</b>					
Crude thousand 42-gallon barrels	7,213	7,121	7,200 e/	7,624 r/	7,675 3/
<b>Refinery products:</b>					
Liquefied petroleum gas do.	6,960	7,416	7,000 e/	7,000	7,500
Gasoline do.	17,680	19,541	20,120	19,540	20,000
Kerosene and jet fuel do.	3,309	3,823	3,832 r/	3,960	4,256 3/
Distillate fuel oil do.	8,736	9,000	9,000 e/	9,000	9,000
Residual fuel oil do.	11,000 e/	9,510	9,623	9,710	8,871 3/
Unspecified do.	8,000 r/	8,000 r/	8,000 r/	8,393 r/	8,673 3/
Refinery fuel and losses do.	2,310	2,200	2,000 e/	4,781 r/	4,844 3/
Total do.	58,000 r/ e/	59,490 r/	59,600 r/ e/	62,384 r/	63,100

e/ Estimated. r/ Revised.

1/ Table includes data available through September 2000.

2/ Estimated data are rounded to no more than three significant digits; may not add to totals shown.

3/ Reported figure.

4/ Excluding stone used by the cement and iron and steel industries.

TABLE 2  
AUSTRIA: STRUCTURE OF THE MINERAL INDUSTRY IN 1999

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum	Aluminum Lend GmbH (Salzburger Aluminium AG, 100%)	Secondary ingot plant at Lend	25
Do.	Austria Sekundär Aluminium GmbH (Amag Austria Metall, 100%)	Secondary ingot plant at Ranshofen	50
Cement	Lafarge Perlmooser AG (Lafarge France, 100%)	Plants at Mannesdorf and Retsnei, grinding plant at Kirchbichl	2,200
Do.	Wietersdorfer Zemenwerke	Plants at Peggau and Wietersdorf	1,000
Do.	Zementwerk Leube	Plant at Gartenau	700
Do.	SPZ Zemenwerke Eiberg	Plant at Eiberg	600
Do.	Gmundner Zement	Plant at Gmundner	580
Coal	Graz-Koflacher Eisenbahn und Bergbaugesellschaft GmbH (Government 100%)	Oberdorf Mine	1,200
Copper	Austria Metall AG (Metal Mining Corp. of Canada 41%, Mount Isa Mines of Australia, 41%, and Government, 18%)	Plant at Brixlegg	75
Graphite	Industrie und Bergbaugesellschaft Pryssok & Co KG	Trandorf Mine at Mühlendorf	15
Do.	Grafitbergbau Kaiserberg AG	Kaisersberg Mine	3
Do.	do.	Trieben Mine	3
Gypsum	Erste Salzburger Gipswerk-Gesellschaft Christian Moldan KG	Abtenau and Moosegg Mines	300
Do.	Rigips Austria GmbH	Grundlsee, Puchberg, Unterkainisch, and Weisenbach Mines	250
Do.	Knauf Gesellschaft GmbH	Hinterstein Mine	160
Iron ore	Voest-Alpine Erzberg GmbH (Government 100%)	Erzberg Mine at Eisenerz	1,000
Lead	Bleiberg Bergwerks-Union AG (Metall Gesellschaft 74%)	Smelter at Brixlegg	55
Magnesite	Veitsch - Radex AG	Mines at Breitenau, Hochfilzen, and Radenthein	600
Do.	Radex Austria AG (Osterreichische Magnesit AG 100%)	Millstatteralpe Mine	250
Natural gas million cubic meters	Osterreichische Mineralolverwaltung AG (Government 100%)	Fields in Vienna Basin	1,500
Steel	Voest-Alpine Stahl GmbH (Government 100%)	Plants at Donawitz and Linz	4,500
Talc	Luzenac Naintsch AG	Mines at Lassing, Rabenwald, and Weisskirchen, plants at Oberfeistitz and Weisskirchen	160
Tungsten	Wolfram Bergbau und Hütten GmbH (Inmet Mining Corp., 100%)	Mittersill Mine, Salzburg; conversion plant, Bergla	350